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ABSTRACT

The first step of this presentation, directed to school board members, is the recommendation of two publications on assessing school programs. The second step is to invite board members to make an indepth study of ninth grade algebra in order to get acquainted with the problem. The third stage of this presentation is to examine some alterable variables, or the place in education where research suggests the application of resources has the greatest prospect of results. Some hints as to how to evaluate these areas are sketched out. These areas can be summarized as making the home and school curriculum mutually supportive, concentrating on feedback to improve what the teacher does, effective use of time to support learning, the importance of possession of skills and content necessary to start a sequence of learning, and providing feedback to students by pretesting and posttesting until the student has mastered the skills and content. The fourth effort is the brief presentation of a case study of the instructional program of Richland County School District in South Carolina. (Author/MLF)

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EVALUATION OF SCHOOL INSTRUCTIONAL PROGRAMS: HOW DO YOU DO IT?

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EVALUATION OF AN INSTRUCTIONAL PROGRAM CAN TAKE MANY FORMS. PERHAPS THE MOST COMMON VIEW OF EVALUATION IS THE PICTURE OF THE EFFECTIVENESS OF A SCHOOL SYSTEM PROVIDED WHEN STANDARDIZED TESTS ARE GIVEN. SUCH TESTS SHOW HOW STUDENTS PERFORMED ON A VARIETY OF TASKS AS COMPARED TO WHAT IS CONSIDERED THE NORMAL SCORE THAT OTHER CHILDREN OF THE SAME AGE IN THE COUNTRY WOULD MAKE ON THE SAME TEST.

IF ONE DOESN'T PUSH THE PARALLEL VERY FAR, SUCH TESTING IS SIMILAR TO THE DOCTOR'S TAKING THE TEMPERATURE OF A PATIENT. THE MEASUREMENT TELLS YOU IF THE PATIENT HAS A NORMAL TEMPERATURE WHICH IS A GOOD SIGN. IT MAY SHOW A SIGNIFICANTLY ABNORMAL TEMPERATURE WHICH USUALLY INDICATES SOMETHING IS WRONG. AN ABNORMAL TEMPERATURE BY ITSELF DOESN'T TELL YOU WHAT IS WRONG. IT IS A USEFUL MEASUREMENT, BUT WHAT IT DISCLOSES IS A SYMPTOM, NOT A CAUSE.

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AS IN MEDICINE, AN EDUCATIONAL EVALUATION WILL MEASURE THE RESULTS, BUT TO BE USEFUL IT MUST INCLUDE SOME APPROACH TO CAUSE. THAT THE MATHEMATICS SCORES IN GRADE 3 ARE DOWN IS USEFUL TO KNOW.

IT IS EVEN MORE USEFUL WHEN THE EVALUATION CONTAINS ELEMENTS FROM WHICH A PRESCRIPTION TO IMPROVE MATHEMATICS SCORES IN THIRD GRADE CAN BE FASHIONED. A GOOD EVALUATION PROGRAM LOOKS FOR BOTH EFFECT - IN TERMS OF SCORES - AND CAUSE. MY FOCUS IS ON CAUSE.

EVALUATION CANNOT TAKE PLACE IN A VACUUM. FOR EXAMPLE, IF A SCHOOL SYSTEM HAS BEEN ENERGETICALLY AND EFFECTIVELY INSTRUCTING YOUNG PEOPLE IN HOW TO DEAL WITH A MOON MADE OF GREEN CHEESE, AND THE RESULTS OF THE INSTRUCTION ARE EVALUATED USING A TEST BASED ON THE THEORY THAT THERE ARE ROCKS ON THE MOON, THERE WILL BE CONSIDERABLE CONFUSION IN THE RANKS WHEN THE TEST SCORES COME OUT. IN CONSEQUENCE, THERE IS A SEQUENCE THAT IS ESSENTIAL TO EVALUATE EFFECTIVELY.

THE SEQUENCE STARTS WITH INFORMATION THAT ANSWERS THE QUESTION FAIRLY SPECIFICALLY: "WHAT IS THE INSTRUCTIONAL PROGRAM REALLY TRYING TO ACCOMPLISH?" IT INCLUDES A PLAN AS TO HOW THE SCHOOL SYSTEM WILL APPLY ITS ENERGY AND RESOURCES TO ACCOMPLISH WHAT IT THINKS IMPORTANT. WHILE THE PLAN FOR INSTRUCTION SWINGS INTO ACTION, THE EVALUATION COMPONENT, AS PART OF THE PLAN, WILL START SENDING BACK DATA THAT TELLS THE SYSTEM WHETHER OR NOT THE PLAN IS WORKING. THE EVALUATION PROVIDES INFORMATION ON WHERE THE SYSTEM WAS WHEN IT STARTED, WHERE IT IS GOING, AND PROVIDES INFORMATION SO THAT THE SYSTEM CAN CORRECT ITS COURSE

BETTER TO REACH ITS DESTINATION. A REALLY GOOD EVALUATION SYSTEM WILL TELL WHAT CHANGES TO MAKE ON THE NEXT TRIP. THE TARGET CAN CHANGE. THE INSTRUCTIONAL PLAN MAY BE SHOWN TO BE SO EFFECTIVE THAT CALCULUS IS INTRODUCED IN THE THIRD GRADE NEXT YEAR. OUR EVALUATION SYSTEM MAY, ON THE OTHER HAND, PROVIDE INFORMATION THAT CAUSES US TO BEEF UP MATERIALS AND TEACHERS' PRESENTATION SKILLS NEXT YEAR IN THIRD GRADE MATHEMATICS BECAUSE THE SYSTEM FAILED TO MEET ITS ORIGINAL OBJECTIVES.

EVALUATION OF INSTRUCTION HAS ALWAYS BEEN THE MOST CRITICAL TASK OF ANY SCHOOL BOARD, AND THE MOST NEGLECTED. SCHOOL BOARD MEMBERS NEED TO HAVE A CLEAR, DETAILED VIEW OF WHAT ACTUALLY HAPPENS WHEN INSTRUCTION TAKES PLACE. BOARD MEMBERS NEED TO KNOW HOW THE EVALUATION SYSTEM WORKS. BOARD MEMBERS, USING THE FEEDBACK OF INFORMATION FROM AN EVALUATION SYSTEM, CAN MAKE WISER DECISIONS. LEARNING WHAT ACTUALLY HAPPENS IN A CLASS AS A CHILD, ONE OF 25 OR SO, STARTS TO LEARN TO READ SHOULD GIVE YOU A REASONABLE SENSE OF HUMILITY. DECISIONS AS TO ALLOCATION OF RESOURCES AND ENERGY ARE YOURS TO MAKE, AND INFORMATION IS NEEDED. ABOVE ALL, BOARD MEMBERS ARE CHARGED WITH DECISIONS ABOUT MATTERS OF DIRECTION. THESE NEED TO BE MADE IN THE LIGHT OF WHAT IS THE ULTIMATE GOAL AND WHAT IS ATTAINABLE NEXT YEAR.

ANY SCHOOL SYSTEM PRESUMABLY IS A RATIONAL ORGANIZATION. IT HAS A PLAN. THIS PRESENTATION HAS A PLAY. FIRST, IF THIS

MORNING ONLY CONFUSES YOU, I HAVE A FALL-BACK POSITION. THE CALIFORNIA STATE EDUCATION DEPARTMENT HAS ISSUED TWO PUBLICATIONS THAT MAY BE USEFUL TO YOU, IF YOU DISCOUNT THE CALIFORNIA IDIOSYNCRACIES. THESE ARE ENTITLED, "HANDBOOK FOR ASSESSING AN ELEMENTARY SCHOOL PROGRAM," AND A COMPANION PIECE, "HANDBOOK FOR ASSESSING A SECONDARY SCHOOL PROGRAM." THESE ARE AVAILABLE FROM THE DEPARTMENT FOR $1.50 EACH BY WRITING PUBLICATION SALES, P.O. BOX 271, SACRAMENTO, CA 95802.

MY SECOND STEP IS TO INVITE YOU TO MAKE AN IN-DEPTH STUDY OF ALGEBRA I IN ORDER TO GET ACQUAINTED WITH THE PROBLEM. THE THIRD STAGE OF THIS PRESENTATION IS TO EXAMINE SOME ALTERABLE VARIABLES OR THE PLACE IN EDUCATION WHERE RESEARCH SUGGESTS THE APPLICATION OF RESOURCES HAS THE GREATEST PROSPECT OF RESULTS. SOME HINTS AS TO HOW TO EVALUATE THESE AREAS ARE SKETCHED OUT. I SHALL DO THIS LEANING HEAVILY ON BENJAMIN BLOOM (BLOOM, 1980). MY FOURTH EFFORT WILL BE THE BRIEF PRESENTATION OF A CASE STUDY. OF THE INSTRUCTIONAL PROGRAM OF RICHLAND COUNTY SCHOOL DISTRICT #2, S.C. (THEIR MOTTO IS "WE TRY HARDER.")

WHY ALGEBRA I? SELLS, IN HER STUDY RELATING JOB OPPORTUNITY TO MATHEMATICS SKILLS, CHARACTERIZES NINTH GRADE ALGEBRA AS A "CRITICAL FILTER," PASSAGE THROUGH WHICH DETERMINES WHETHER OR NOT STUDENTS WILL HAVE ACCESS TO ENTRY TO WHITE COLLAR, RESPECTABLE, BETTER OR HIGHER PAYING JOBS. SHE POINTS OUT THAT MOST

LOWER AND MIDDLE LEVEL JOBS IN TECHNICAL FIELDS REQUIRE MATHEMATICS AT A SURPRISING LEVEL OF ACCOMPLISHMENT. ALGEBRA I IS THE GATEWAY TO THE HIGH SCHOOL SEQUENCE THAT MEETS THAT NEED. ANALYSIS OF UNIVERSITY OF CALIFORNIA REQUIREMENTS FOR STUDENTS MAJORING IN A WIDE VARIETY OF DISCIPLINES SHOWED THAT FRESHMAN CALCULUS IS ONE OF THE SUBJECTS THAT STUDENTS MUST TAKE. A SEQUENCE OF HIGH SCHOOL MATHEMATICS SUBJECTS REPRESENTS A PREREQUISITE TO TAKING FRESHMAN CALCULUS. NINTH GRADE ALGEBRA I STARTS THAT SEQUENCE. IT IS A FORMIDABLE HURDLE.

YOUR INQUIRY CAN START HERE. WHAT PERCENTAGE OF STUDENTS TAKE ALGEBRA I? WHO ARE THESE STUDENTS? WHAT STUDENTS DO NOT TAKE ALGEBRA I? ARE THESE MOSTLY DISADVANTAGED OR MINORITY STUDENTS? HOW DOES THE SCHOOL DECIDE WHO TAKES ALGEBRA I? WHAT HAS BEEN THE PREVIOUS HISTORY IN MATHEMATICS OF STUDENTS WHO CHOSE TO AVOID ALGEBRA I? DID THEY REALIZE WHAT AN IMPORTANT CHOICE THIS WAS? WHAT HAPPENED TO THOSE WHO WENT BEYOND ALGEBRA I? DID THE PERCENTAGE IF GIRLS, OR MINORITIES, IN UPPER YEAR MATHEMATICS DECLINE EVEN FURTHER?

THE MAJOR QUESTION, ARISING FROM COMTEMPLATION OF ALGEBRA I, RELATES TO THE BASIC PURPOSE OF EDUCATION. EDUCATION ALL OVER THE WORLD HAS A LONG TRADITION OF HAVING AS ITS MAIN FUNCTION SELECTING OUT THOSE STUDENTS WHO WILL BE SUCCESSFUL (BLOOM, ET AL., 1971, P. 1). THIS IS BASED ON THE BELIEF THAT SIGNIFICANT FACTORS

RELATING TO LEARNING, SUCH AS FAMILY BACKGROUND, INTELLIGENCE, AND APTITUDE, ARE ALREADY DETERMINED WHEN THE CHILD ENTERS SCHOOL AND THEIR EFFECTS CANNOT BE OVERCOME TO ANY GREAT DEGREE BY THE SCHOOL. THE SCHOOL'S JOB BECOMES ONE OF MAKING AN ADJUSTMENT BETWEEN THE STUDENT'S LIMITATIONS AND THE ACADEMIC PROGRAM IN WHICH ONLY THE FITTEST SURVIVE AND DO WELL. TESTS ARE GIVEN AT INTERVALS TO DETERMINE WHETHER MATERIAL HAS BEEN LEARNED, TO OPEN THE GATES TO THOSE WHO PASS, CLOSING THE GATES TO OTHERS.

AS AGAINST THIS ALMOST CALVINISTIC DETERMINISM IS THE BELIEF, INCREASINGLY BUTTRESSED BY RESEARCH, THAT MUCH MORE CAN BE ACHIEVED BY STUDENTS, UP TO THE EXPECTATION THAT 80% or 90% OF THE STUDENTS UNDER PROPER CIRCUMSTANCES CAN MASTER WHATEVER MAY REASONABLY BE EXPECTED OF THEM IN PUBLIC SCHOOL. IN TURN THIS VIEW IS BASED ON RESEARCH THAT SUGGESTS THAT THE MAJOR DIFFERENCE AMONG YOUNG PEOPLE IN LEARNING LIES IN THE RATE OF SPEED OF LEARNING. IT HOLDS THAT, GIVEN ENOUGH TIME AND GOOD TEACHING AND SUPPORTIVE SCHOOLS, THE DIFFERENCES IN THE RATE OF SPEED OF LEARNING CAN BE MARKEDLY REDUCED AND WILL TEND TO DISAPPEAR.

OBVIOUSLY EVALUATION OF A SCHOOL SYSTEM'S INSTRUCTIONAL PROGRAM WILL BE MARKEDLY DIFFERENT DEPENDING UPON THE EVALUATOR'S VIEW OF EDUCATION. FOR THE PURPOSES OF THIS DISCUSSION, I AM STARTING FROM THE POSITION THAT MOST STUDENTS CAN ACHIEVE AT

HIGH LEVELS, EQUAL TO MASTERY, AND THE EVALUATION OF THE SYSTEM SHOULD INCLUDE EXAMINATIONS OF THOSE AREAS THAT RESEARCH HAS SHOWN ARE ONES WHERE THERE IS THE MOST TO GAIN BY THE APPLICATION OF RESOURCES. THESE INCLUDE THE AREAS BLOOM HAS SHOWN TO BE ALTERABLE VARIABLES (BLOOM, 1980).

DOES THE INSTRUCTIONAL PROGRAM TAKE INTO ACCOUNT THE HOME CURRICULUM?

ONE VARIABLE THROUGHOUT RESEARCH THAT IS FOUND TO BE CLEARLY RELATED TO ACHIEVEMENT OF STUDENTS IS THE SOCIO-ECONOMIC STATUS OF PARENTS. THE FACTOR OF SOCIO-ECONOMIC STATUS, REFLECTING INCOME, LEVEL OF EDUCATION REACHED, AND THE LIKE, IS A VARIABLE THAT THE SCHOOL CANNOT CHANGE MUCH. HOWEVER, WHAT PARENTS DO, OR THE HOME CURRICULUM, CAN BE CHANGED AND, IF NECESSEAY, SUPPLEMENTED BY THE SCHOOL. THE HOME CURRICULUM OR THE LEARNING PROCESS CHILDREN GO THROUGH AT HOME FROM BIRTH TO ENTRY INTO SCHOOL AND DURING SCHOOLING, IS A VERY POWERFUL VARIABLE. IT IS ALSO ALTERABLE. SCHOOLS CAN AND HAVE CHANGED OR SUPPLEMENTED THE HOME CURRICULUM SO THAT THE ACHIEVEMENT OF STUDENTS IN SCHOOL LEARNING HAS INCREASED.

ANY EVALUATION OF A SCHOOL INSTRUCTIONAL PROGRAM SHOULD LOOK AT THE EFFECTIVENESS OF EFFORTS THE SCHOOL HAS MADE TO MAKE THE HOME CURRICULUM AND THE SCHOOL CURRICULUM AS CLOSE AND AS MUTUALLY SUPPORTIVE AS POSSIBLE. THE POINTS THAT SEEM MOST USEFUL TO

CONCENTRATE ON ARE THE DEVELOPMENT OF VOCABULARY AND USE OF LANGUAGE, ENCOURAGING CHILDREN TO LEARN WELL, PARENTS' ASPIRATIONS FOR CHILDREN, PROVISION OF HELP IN LEARNING, AND WAYS IN WHICH TIME AND SPACE ARE ORGANIZED FOR EFFECTIVE USE OF HOMEWORK (BLOOM, 1980, P. 385). A VARIETY OF LEARNING EXPERIENCES FOR PARENTS, MUCH HOME VISITATION, AND PROVISION OF MATERIALS HAVE BEEN USED EFFECTIVELY IN THIS AREA (BARTH, 1979). IF THE HOME CANNOT RESPOND, THE SCHOOL CAN MOVE TO COMPENSATE FOR THE DIFFERENCES, BASED ON WHAT IT KNOWS ABOUT THE HOME, THROUGH MODIFYING ITS PRIMARY SCHOOL PROGRAM AND PROVIDING EARLY CHILDHOOD EDUCATION.

DOES THE SCHOOL SYSTEM EVALUATE THE PROCESS OF CLASSROOM TEACHING IN ORDER TO IMPROVE THE TEACHER'S SKILL?

A SECOND SET OF SIGNIFICANT VARIABLES RELATES TO THE TEACHER. THE CHARACTERISTICS OF TEACHERS, SUCH AS AGE, TRAINING, EXPERIENCE, ATTITUDES AND THE LIKE, CANNOT BE CHANGED BY THE SCHOOL VERY MUCH. HOWEVER, THE RESEARCH AGAIN SHOWS THAT THESE CHARACTERISTICS HAVE LITTLE RELATIONSHIP WITH CHILDREN'S LEARNING. WHAT CAN BE CHANGED, IF SLOWLY, IS WHAT THE TEACHER DOES IN A CLASSROOM. TEACHERS NEED A GOOD DEAL OF CONSTRUCTIVE FEEDBACK RELATING WHAT THEY DO IN THE CLASSROOM TO THE STUDENT'S LEARNING RESPONSE IN THE LIGHT OF WHAT THE TEACHER EXPECTED THE STUDENT TO LEARN. THE FEEDBACK CAN BE OBTAINED BY RECORDING IN SOME WAY AND ANALYZING WHAT HAPPENED IN THE CLASSROOM. AMONG THE PROCEDURES USED ARE

VIDEO TAPING A CLASSROOM SEGMENT, SYSTEMATIC OBSERVATION USING A CAREFULLY PREPARED FORMAT AND CLINICAL SUPERVISION IN WHICH A COLLEAGUE OR A SUPERVISOR DOES THE RECORDING. ASCD HAS A NEW VIDEOTAPE AVAILABLE ON RENTAL, DESCRIBING CLINICAL SUPERVISION. MOST TEACHERS IN AMERICA, AFTER THEIR APPRENTICE PERIOD, ARE RARELY OBSERVED IN ACTION.

THE SCHOOL SYSTEM SHOULD HAVE A RECORD OF OBSERVATIONS, A RECORD OF THE CHANGES THAT ARE AGREED UPON THAT EACH TEACHER WILL MAKE AS A RESULT OF THE ANALYSIS OF TEACHING AND A RECORD OF THE SUCCESS IN MAKING SUCH CHANGES. THE EVALUATION OF ACTUAL CLASSROOM INSTRUCTION IN ORDER TO IMPROVE TEACHING SKILLS IS PROBABLY THE SINGLE MOST EFFECTIVE ACTION A SCHOOL SYSTEM CAN TAKE TO IMPROVE INSTRUCTION.

SCHOOL BOARD MEMBERS, IN MY VIEW, SHOULD SPEND MORE TIME WATCHING TEACHING AND GAINING UNDERSTANDING OF WHAT GOES ON WHEN TEACHING AND LEARNING ARE TAKING PLACE. SYSTEMATIC CLASSROOM OBSERVATION OR VIEWING OF VIDEOTAPED LESSONS WITH THE SUPERVISOR AND TEACHER DISCUSSING AND ANALYZING WHAT TOOK PLACE, ARE PERHAPS THE ONLY WAY TO GET REAL INSIGHT INTO WHAT EDUCATION IS ALL ABOUT. I NEED NOT REMIND YOU THAT A CERTAIN AMOUNT OF TENSION IS GENERATED WHENEVER ANYONE IS SUBJECTED TO CLOSE SCRUTINY WHILE AT WORK AND WHEN OBSERVATION IS RARE, MANY CLASSROOMS BECOME UNNATURAL, AT LEAST FOR A TIME.

THERE ARE THREE AREAS THAT RESEARCH SUGGESTS ARE THE MOST IMPORTANT TO LOOK FOR IN WATCHING A TEACHER IN ACTION. THESE ARE THE CUES, REINFORCEMENT AND PARTICIPATION USED TO ACHIEVE THE PURPOSES OF A LESSON (DOLLARD AND MILLER, 1950). CUES ARE THE INSTRUCTIONS GIVEN AS TO WHAT IS TO BE LEARNED AND WHAT TO DO TO LEARN IT. STUDENTS WILL LEARN MORE WHEN THE INSTRUCTION AND THE MATERIALS USED ARE CLEAR, HAVE MEANING, ARE STRONG, AND HAVE A VARIETY OF APPROACHES TO ENCOMPASS MAJOR LEARNING STYLES. REINFORCEMENT IS THE REWARD SYSTEM OF THE CLASSROOM. IT CAN BE NEGATIVE, AS WELL. PARTICIPATION IS THE DEGREE TO WHICH STUDENTS TAKE PART IN THE ACTIVITY OF THE CLASSROOM.

IF YOUR OBSERVATIONS FOLLOW THE PATTERN DISCLOSED IN RESEARCH, MOST TEACHERS YOU OBSERVE WILL RESERVE BOTH SUPPORTIVE REINFORCEMENT AND OPPORTUNITY FOR PARTICIPATION FOR A PART OF THE CLASS. OFTEN THE STUDENTS IN THE BOTTOM THIRD PARTICIPATE LITTLE AND MORE OFTEN GET NEGATIVE RATHER THAN SUPPORTIVE COMMENTS FROM THE TEACHER. IT TAKES A STRONG PERSONALITY TO SURVIVE AT THE BOTTOM.

DOES THE INSTRUCTIONAL SYSTEM FEED BACK TO THE STUDENT INFORMATION ABOUT HIS SUCCESS OR FAILURE IN UNDERTAKING SPECIFIC LEARNING TASKS AND INSIST THAT THE TASKS BE LEARNED?

MOST SCHOOLS CONFINE THEIR TESTING TO THE CONCLUSION OF A SERIES OF LEARNING TASKS. THE STUDENT IS TESTED AND GRADED ON HOW WELL THE MATERIAL WAS LEARNED AND THE CLASS MOVES ON TO ANOTHER

SERIES OF LEARNING TASKS. THIS KIND OF TESTING RESULTS IN A KIND OF PREDICTABILITY. IF THE STUDENT HAS FAILED A TEST, AND DOES NOT HAVE THE CHANCE TO LEARN WHAT HE FAILED AND ULTIMATELY TO MASTER THE ITEMS TO BE LEARNED, HE WILL PROBABLY CONTINUE TO FAIL. THERE IS NOTHING WRONG WITH INFORMING A STUDENT THAT HE MAY HAVE FAILED ON A TEST BUT SOMETHING IMPORTANT IS LACKING WHEN THERE IS NO OPPORTUNITY TO LEARN WHAT WAS WRONG AND TO LEARN HOW TO DO THE EXERCISE PROPERLY. IT IS A LITTLE LIKE A CHURCH JUDGING A MEMBER A SINNER AND NOT PROVIDING A FAIRLY SPECIFIC ROAD TO SALVATION.

ONE WAY TO BREAK THE PREDICTABILITY OF ACHIEVEMENT SCORES IS TO TEST THE STUDENT BEFORE THE START OF A LEARNING TASK, SHOWING HIM WHAT HE ALREADY KNOWS AND WHAT HE NEEDS TO LEARN. HE AND THE TEACHER CAN DEVELOP STRATEGIES TO LEARN WHAT IS NOT KNOWN. AT THE END OF THE LEARNING TASK, A SECOND SIMILAR TEST WILL SHOW WHETHER OR NOT THE CLASS HAS LEARNED WHAT WAS EXPECTED. PROBABLY NOT ALL WILL HAVE LEARNED TO THE LEVEL OF MASTERY CONSIDERED DESIRABLE BY THE SCHOOL. HOWEVER, THOSE WHO FAILED TO MASTER THE MATERIAL, IF PROPER INFORMATION IS GIVEN THEM, KNOW WHAT THEY HAVE LEARNED, AND KNOW WHAT REMAINS TO BE LEARNED. THE GOOD INSTRUCTIONAL PROGRAM WILL PROVIDE EXTRA TIME TO ENABLE STUDENTS TO COMPLETE THE PROCESS OF MASTERING THE MATERIAL, AND WILL PROVIDE SUPPORT AND ENCOURAGEMENT, INCLUDING OFTEN CHANGING THE MATERIAL OR THE APPROACH USED IN ORDER TO GET THE IDEAS ACROSS TO THE STUDENT.

THE FACTS THAT STUDENTS WHO ARE SLOWER TO LEARN ARE EXPECTED TO LEARN, THAT TIME AND EFFORT AND HELP ARE GIVEN, AND THAT THE TASK IS PINPOINTED TO SPECIFIC THINGS TO DO RATHER THAN A GENERAL INJUNCTION TO WORK HARDER, ALL HELP TO MOVE A STUDENT TOWARD GREATER PROFICIENCY IN LEARNING. THE STUDENT NO LONGER IS PREDICTABLE. FOR THE MOST PART HIS ACHIEVEMENT LEVELS CLIMB. SUCCESS, BE IT EVER SO SMALL, HAS BEEN TASTED. THERE IS A WAY OUT OF DISASTER. THE SCHOOL AND THE STUDENT WORK TOGETHER WITH OCCASIONAL BACKSLIDING TO MASTER EACH ITEM IN THE SCALE.

DOES THE INSTRUCTIONAL PROGRAM USE TIME EFFECTIVELY?

IN MOST SCHOOLS, THE CLASS MOVES ALONG AT SOME AVERAGE LEVEL OF SPEED AND THE SLOWER STUDENTS FALL BY THE WAYSIDE SINCE THEY DO NOT MASTER THE SKILLS OR CONTENT BEING TAUGHT THAT DAY OR THAT SEQUENCE OF TASKS.

DIFFERENCES IN THE RATE OF SPEED OF LEARNING REPRESENT THE MOST SIGNIFICANT VARIABLE RELATIONED TO SUCCESS IN SCHOOL LEARNING. THERE IS LITTLE RELATIONSHIP BETWEEN SPEED OF LEARNING AND POWER OF THINKING. A CRITICAL FACTOR IN INSTRUCTION IN GROUPS IS TO FIND WAYS TO INCREASE THE TIME AVAILABLE TO THE SLOWER STUDENT IN ORDER THAT SUCH STUDENTS MAY SUCCESSFULLY MASTER THAT WHICH IS BEING TAUGHT.

ONE WAY, USUALLY HARD TO ACHIEVE, PROVIDES A LONGER SCHOOL DAY FOR SLOWER STUDENTS THAN IS PROVIDED FOR FASTER STUDENTS. ONE COUNTY IN FLORIDA MOVED ITS TITLE I PROGRAM TO TIME OUTSIDE THE REGULAR SCHOOL DAY. USING ITS BEST TEACHERS AND ADDING TIME FOR THE SLOWER STUDENTS, THE SYSTEM CLAIMS SUBSTANTIAL RESULTS (JONES, 1980).

ONE PLACE WHERE ADDITIONAL TIME IS AVAILABLE IS IN THE INCREASE IN ON-TASK TIME IN THE CLASSROOM. THIS CAN BE MEASURED BY OBSERVATION OF STUDENTS IN CLASSROOMS. EXPERIENCE OF OBSERVERS CAN TELL WITH REASONABLE ACCURACY WHEN A STUDENT IS CAUGHT UP WITH LEARNING. THERE IS ALWAYS THE PROBLEM OF DETERMINING WHETHER OR NOT THE STUDENT LOOKING OUT THE WINDOW IS ACTUALLY PAYING ATTENTION. MANY A TEACHER HAS BEEN AMBUSHED AT THAT POINT.

IT IS MORE PROFITABLE TO WORK TO INCREASE ON-TASK TIME OF CHILDREN THAN TO WORRY ABOUT DIFFERENCES IN SPEED OF LEARNING. ON-TASK TIME INCREASES WHEN INSTRUCTION IS GOOD - CLEAR AND UNDERSTANDABLE. WHEN STUDENTS HAVE SKILLS NECESSARY TO START A SEQUENCE OF LEARNING, WHEN THEY GET FEEDBACK AS TO WHICH TASKS THEY HAVE MASTERED, WHEN THEY GET TIME AND SUPPORT IN FINALLY MASTERING THE TASKS, THE DIFFERENCES IN THE RATE OF SPEED OF LEARNING REDUCE AND, UNDER THE BEST CONDITIONS, APPROACH ZERO.

OTHER ALTERABLE VARIABLES

WE SHALL CONTINUE TO DISCOVER ALTERABLE CHARACTERISTICS OF SCHOOLS, WHERE WE CAN PINPOINT EFFORT IN ORDER TO MAKE THE BEST USE OF RESOURCES TO IMPROVE INSTRUCTION. ONE OF THE AREAS, IN MY JUDGMENT, LIES IN THE STUDENTS' PERCEPTION OF THEIR SCHOOL AS AN INSTITUTION THAT IS WORTH THEIR RESPECT; ONE THAT IS FIRM BUT CONCERNED; AND IS OF SUCH HIGH QUALITY THAT IT IS WORTH THE EFFORT TO THE STUDENT TO BE ASSOCIATED WITH IT. THIS FACTOR RELATES TO REPUTATION, SIZE, ATTITUDE OF THE SCHOOL TOWARD THE STUDENT, AND OTHER FACTORS WE DO NOT KNOW ABOUT.

ANOTHER ALTERABLE CHARACTERISTIC THAT I THINK EXISTS IS WHETHER OR NOT THE STUDENT HAS CONFIDENCE THAT IF HE WORKS HARD HE WILL BE SUCCESSFUL. MANY OF OUR STUDENTS HAVE NO REASON TO BELIEVE THIS AND TOO OFTEN SCHOOLS DON'T HELP. IT MAY BE THAT CLOSE CONTACT WITH ROLE MODELS IN THE COMMUNITY MAY BE ONE WAY TO EASE THIS PROBLEM.

WE HAVE DISCUSSED A SERIES OF ALTERABLE VARIABLES, AREAS WHERE RESEARCH SUGGESTS YOU CONCENTRATE YOUR RESOURCES TO GET BETTER RESULTS. THESE CAN BE SUMMARIZED AS MAKING THE HOME AND SCHOOL CURRICULUM MUTUALLY SUPPORTIVE, CONCENTRATING ON FEEDBACK TO IMPROVE WHAT THE TEACHER DOES, EFFECTIVE USE OF TIME TO SUPPORT LEARNING, THE IMPORTANCE OF POSSESSION OF SKILLS AND CONTENT

NECESSARY TO START A SEQUENCE OF LEARNING, PROVIDING FEEDBACK TO STUDENTS BY PRETESTING AND POST-TESTING IN THE PROCESS OF LEARNING UNTIL THE STUDENT HAS MASTERED THE SKILLS AND CONTENT. OTHER VARIABLES HAVE BEEN SUGGESTED. ANY EVALUATION OF INSTRUCTION NECESSARILY IS BUILT AROUND THE AREAS THE SYSTEM WANTS TO EMPHASIZE. THESE ARE MY BIASES.

RICHLAND COUNTY, S.C., SCHOOL DISTRICT TWO: A CASE STUDY

LET US FINALLY TURN OUR ATTENTION TO A BRIEF DESCRIPTION OF A CASE STUDY: THE INSTRUCTIONAL PROGRAM OF RICHLAND COUNTY, S.C. SCHOOL DISTRICT TWO. THE DISTRICT IS JUST OUTSIDE THE BORDERS OF THE COLUMBIA CITY SCHOOL DISTRICT. WITH 10,000 STUDENTS ENROLLED, ABOUT 20 PERCENT BLACK, POPULATION IS NICELY SCATTERED THROUGH THE SCHOOLS. SOME STUDENTS LEFT TO ATTEND PRIVATE ACADEMIES WHEN THE SYSTEM INTEGRATED AND I FEEL SORRY FOR THE FEW THAT REMAIN ISOLATED. THE RANGE OF SOCIO-ECONOMIC LEVELS OF BOTH WHITE AND BLACK CITIZENS IS CONSIDERABLE. THERE ARE POVERTY POCKETS. A SUTSTANTIAL ENROLLMENT COMES FROM PEOPLE WHO WORK AT FORT JACKSON. IT HAS ITS LAKESIDE AND COUNTRY CLUB HIGH COST SUBURBS. THERE IS A RELATIVELY REMOTE RURAL EDUCATIONAL COMPLEX. THE COMMUNITY SUPPORTS ITS SCHOOLS WHOLEHEARTEDLY. THE SCHOOL BOARD MEMBERS AND THE PROFESSIONAL STAFF WORK HARD TO KEEP IT THAT WAY.

I HAVE KNOWN THE SCHOOL SYSTEM FOR ABOUT 10 YEARS, SINCE BEFORE THE PRESENT ADMINISTRATION, LED BY HAP CORLEY, HERBERT TYLER, EVELYN BLACKWELDER, AND OTHERS, TOOK HOLD. AS THE SYSTEM'S ITINERANT YANKEE, MY ROLE HAS BEEN IN LONG RANGE PLANNING AND IN THIS PROCESS I HAVE OF NECESSITY LEARNED ABOUT AND SEEN THE CHANGES IN THE SCHOOL SYSTEM. TEN YEARS AGO, THE SYSTEM WAS A PRETTY SLOPPY OPERATION. TODAY IT IS A SUPERIOR EDUCATIONAL SETTING. ADMITTEDLY, IT HAS A FEW WARTS AND A WAY TO GO TO REACH PERFECTION, BUT IF YOU CONSIDER WHERE IT WAS AND WHERE IT IS NOW, THE CHANGE IS SPECTACULAR. THE KEY QUESTION REMAINS: HOW FAR DID YOU GO WITH WHAT YOU HAD TO WORK WITH. THE BOARD MEMBERS AND THE PROFESSIONAL STAFF DESERVE FULL CREDIT FOR A JOB WELL DONE.

WHILE MANY THINGS CONTRIBUTE TO THIS SUCCESS, THE STRATEGIC EFFORT IS RELATED TO THE DESIGN OF THE INSTRUCTIONAL PROGRAM. RICHLAND TWO'S PROGRAM IS A FIVE YEAR PLAN. IT HAS GONE THROUGH ONE CYCLE AND IS IN A SECOND REVISED CYCLE. THE PLAN IS REPORTED STEP BY STEP.

1. <u>SETTING SYSTEM-WIDE OBJECTIVES</u>

WITH CONSIDERABLE PARTICIPATION FROM THE PROFESSIONAL STAFF, TEACHERS, PUBLIC AND BOARD MEMBERS, ELEVEN OBJECTIVES WERE DECIDED UPON, REPRESENTING MAJOR TASKS TO BE ACCOMPLISHED. FOR EACH OBJECTIVE, COMMITTEES HAD DEVELOPED SUGGESTED STRATEGIES

TO REACH THE OBJECTIVES. THE OBJECTIVES WERE THAT EACH STUDENT WOULD HAVE:

AN ACCURATE AND POSITIVE SELF CONCEPT

COMPUTATIONAL SKILLS RELATED TO HIS ABILITY

COMMUNICATION SKILLS RELATED TO HIS ABILITY

A SALEABLE SKILL WHEN THE STUDENT LEAVES

PREPARATION TO GO ON IN EDUCATION, IF THIS IS HIS ASPIRATION

ABILITY TO PARTICIPATE IN THE DEMOCRATIC PROCESS

A TENTATIVE CAREER CHOICE

AN AWARENESS OF PERSONAL AND ENVIRONMENTAL HEALTH AND SAFETY FACTORS

KNOWLEDGE AND SKILLS ASSOCIATED WITH SCIENTIFIC PRINCIPLES

KNOWLEDGE AND SKILLS ASSOCIATED WITH AESTHETIC FACTORS

2. COLLECTING INFORMATION ABOUT STRATEGIC AREAS

THE SCHOOL SYSTEM PROVIDED EACH SCHOOL WITH DETAILED INFORMATION BASED ON A SURVEY OF ALL TEACHERS OF READING SCORES, MATERIALS USED, CRITERIA FOR PLACEMENT OF STUDENTS AT READING LEVELS, STRENGTHS AND WEAKNESSES OF THE READING PROGRAM, AND AREAS WHERE TEACHERS FELT A NEED FOR INFORMATION AND HELP. TEST RESULTS WERE PROVIDED WHEREVER AVAILABLE SUCH AS A HEALTH BEHAVIOR INVENTORY RELATED TO THE OBJECTIVE FOR HEALTH. INTERESTINGLY, THE SCHOOL SYSTEM ARRANGED FOR THE DEVELOPMENT OF A MEASURE OF STUDENTS' SELF CONCEPTS, THE FIRST OBJECTIVE IN THE LIST.

3. DEVELOPING AN INDIVIDUAL SCHOOL PLAN

EACH SCHOOL WAS REQUIRED TO DEVELOP A PLAN USING A DETAILED SUGGESTED FORMAT TO MEET THE OBJECTIVES SET BY THE SYSTEM. THESE INCLUDE QUITE SPECIFIC OBJECTIVES IN TERMS OF SPECIFIC SKILLS SUCH AS EACH CHILD WILL ADVANCE AT LEAST ONE YEAR IN READING LEVEL, 90% OF THE CHILDREN WILL COMPLETE WORD ATTACK SKILLS, AND THE LIKE. THE LIBRARY HAS OBJECTIVES. THE FACULTY HAS GRADE BY GRADE ITEM ANALYSIS OF SPECIFIC SKILLS ON TESTS. THE SCHOOL HAS DEVELOPED A WAY TO LOOK AT IMPROVING SELF CONCEPT OF STUDENTS. THE SCHOOL HAS FOCUSED ON BEHAVIOR IN THE SCHOOL AS AN AREA IT WISHES TO STRESS AS A PART OF PARTICIPATION IN THE DEMOCRATIC PROCESS. THE CENTRAL STAFF REVIEWS AND ASSISTS THE SCHOOLS IN MAKING THE PLANS HELPFUL.

4. DEVELOPING AN INDIVIDUAL JOB STRATEGY FOR EACH INSTRUCTIONAL STAFF MEMBER

EACH MEMBER OF THE CENTRAL INSTRUCTIONAL STAFF DEVELOPED A PLAN FOR ACTION, WITH DATES ON WHICH TASKS WERE TO BE COMPLETED, THAT WAS CONSISTENT WITH THE SCHOOL PLAN AND THE SYSTEM-WIDE OBJECTIVES. THESE INCLUDE SPECIFIC ACTIONS TO BE TAKEN TO HELP EFFECT CHANGE IN THE INSTRUCTIONAL PROGRAM, WORK TO BE DONE TO MEASURE STAFF DEVELOPMENT FOLLOWING NEEDS EXPRESSED BY TEACHERS, ACTIONS LEADING TO SECURING SPECIAL RESOURCES, SUCH AS STATE AND FEDERAL FUNDING, ACTION TO TAKE TO INCREASE THE INDIVIDUAL'S PROFESSIONAL COMPETENCE, AND ACTIONS TO IMPROVE PUBLIC AND COM-

MUNITY RELATIONS. THE ASSOCIATE SUPERINTENDENT FOR INSTRUCTION PLANNED TO HOLD WEEKLY MEETINGS WITH THE INSTRUCTIONAL STAFF TO ASSESS PROGRESS IN MEETING THE FIVE YEAR PLAN OBJECTIVES. IN OCTOBER, HE PLANNED TO ANALYZE TEST DATA FOR COMMON STUDENT DEFICITS SO THAT THESE DATA COULD BF FED BACK TO STAFF AND STAFF DEVELOPMENT. HE ALSO WORKED WITH PRINCIPALS TO DEVELOP STRATEGIES TO HELP TEACHERS MEET SELF IMPROVEMENT GOALS. THESE ARE SAMPLES FROM A BUSY YEAR.

5. STAFF DEVELOPMENT

A COMMITTEE DEVELOPED A PLAN FOR STAFF DEVELOPMENT BASED ON A THOROUGH ASSESSMENT OF FACULTY SKILLS NEEDED, UPON FACULTY REQUESTS FOR AREAS OF HELP, AND UPON STAFF OPINION. THE PLAN INCLUDES COLLEGE COURSE OFFERINGS ARRANGED FOR THE SYSTEM BY A VARIETY OF INSTITUTIONS, CONFERENCES, WORKSHOPS, AND OTHER DEVICES. AN EXAMPLE WAS A COURSE REQUESTED BY FACULTY TO HELP MEET THE NEEDS OF HANDICAPPED STUDENTS IN REGULAR CLASSES. OTHER AREAS WERE WORKSHOPS REQUESTED FOR CLASSROOM MANAGEMENT AND DISCIPLINE. TRAINING AIDES AND VOLUNTEERS. AND MEETING MINIMUM COMPETENCY STANDARDS IN HIGH SCHOOL, TO MENTION A FEW. EACH COURSE OR PROCEDURE WAS ACCOMPANIED BY AN EVALUATION FORM USED BY THOSE PRESENT. WAS THE COURSE HELPFUL AND HOW COULD IT BE IMPROVED. WAS THE THEME.

6. THE INSTRUCTIONAL STAFF EVALUATES SCHOOLS ON REQUEST

THE SCHOOLS HAVE AVAILABLE A SUPERIOR INSTRUCTIONAL STAFF AND TURN TO THEM FOR HELP IN MANY WAYS. ONE WAY IS TO REQUEST A THOROUGH EVALUATION. THESE ARE EXCERPTS FROM ONE.

"THE MAIN EMPHASIS FOR CURRICULUM DEVELOPMENT SHOULD BE ENRICHMENT IN LANGUAGE ARTS AND MATHEMATICS FOR STUDENTS WORKING ABOVE GRADE LEVEL. AS AN EXAMPLE A TOP FIFTH GRADE READING GROUP COULD WORK WITH A TOP FIRST GRADE READING GROUP ONE DAY PER WEEK, SELECTING A BOOK FROM THE LIBRARY, DESIGN QUESTIONS TO BE ANSWERED TO TEST COMPREHENSION, AND TO DESIGN A CORRELATING ACTIVITY."

OR

WRITING SKILLS ARE "A WEAKNESS IN ONE ELEMENTARY PROGRAM ... DESIGN WAYS FOR PRACTICAL APPLICATION OF LANGUAGE MECHANICS. A SCHOOL NEWSPAPER, WHICH IS DEVELOPED BY THE FIFTH GRADE MIGHT ASSIST ... THIS COULD BE USED AS A TEACHING TOOL FOR THE INTERMEDIATE GRADES, IF EACH TEACHER WERE GIVEN A SHEET TO ACCOMPANY THE NEWSPAPER INCLUDING COMPREHENSION QUESTIONS AND SUGGESTED ACTIVITIES."

OR

"INCREASED EXPOSURE FOR THE EXPRESSIVE ACTS - DRAMA, ART AND MUSIC."

THIS IS A SKILLED EVALUATION. SIGNIFICANT FACTORS WERE PICKED OUT, OF WHICH I HAVE EXCERPTED ONLY A FEW. SPECIFIC SUGGESTIONS WERE MADE FOR IMPROVEMENT.

7. DEVELOPING THE HOME CURRICULUM

WHILE THE SCHOOLS INVOLVE LARGE NUMBERS OF PARENTS AS VOLUNTEERS, SPECIFIC METHODS HAVE BEEN DEVELOPED, INCORPORATED INTO MATERIALS FOR PARENTS TO USE AT HOME. HAVE YOUR CHILD FIND THE FIRST LETTER OF HIS OR HER NAME IN THE NEWSPAPER. HOW MANY THINGS YOU SEE ON A TRIP BEGIN WITH THE SAME SOUND - TRUCK, TRICYCLE, TELEPHONE POLE, TREE. WHAT WORD BEGINS WITH THE SAME SOUND AS CUP AND RHYMES WITH FAT?

8. REPORTING THE RESULTS

AT THE END OF THE FIVE YEAR EFFORT, A REPORT CARD WAS PREPARED. FOR EACH OBJECTIVE, THE EVALUATION METHOD WAS STATED, THE DATA FOR 1973 WERE GIVEN, AND THE DATA FOR 1978 WERE GIVEN. NOTES WERE MADE OF THE COMPARISON. DATA WERE PROVIDED FOR FOURTH, SEVENTH AND NINTH GRADE. BASED UPON THE CALIFORNIA TEST OF BASIC SKILLS, SEVENTH GRADE COMPUTATIONAL SKILLS WENT FROM 5.7 GRADE EQUIVALENT ON THE AVERAGE TO 7.6 GRADE EQUIVALENT. IN COMMUNICATION SKILLS IN READING IN THE SEVENTH GRADE, THE AVERAGE GRADE EQUIVALENT CLIMBED FROM 6.7 TO 8.4 GRADE EQUIVALENTS.

THE OBJECTIVE TO DEVELOP POSITIVE SELF CONCEPTS RESULTED IN A MEASURING INSTRUMENT BEING DEVELOPED AND TRIED OUT. IT WAS ADMINISTERED TO A SAMPLE IN 1977. THE CURRENT PROGRAM IS ATTEMPTING TO USE THE MEASUREMENT TO IDENTIFY SPECIFIC STUDENTS TO RECEIVE SPECIAL PROGRAM EMPHASIS.

THE SCHOOL SYSTEM BACKED OFF FROM THE OBJECTIVE THAT EACH STUDENT LEAVING THE SCHOOL HAVE A SALEABLE SKILL.

ABILITY TO MAKE A TENTATIVE CAREER CHOICE RESULTED IN A MIXED RESULT. OVER HALF OF THE STUDENTS SHOWED THE SKILL AS MEASURED IN THE UPPER YEARS OF HIGH SCHOOL. ABOUT 43 PERCENT MADE AN UNREALISTIC CHOICE. IT'S BACK TO THE DRAWING BOARD TO DEVELOP ADDITIONAL HELP TO STUDENTS IN MAKING CAREER CHOICES.

THESE ARE SAMPLES. AS IS TO BE EXPECTED, THE RESULTS ARE STRONGEST IN SKILL AREAS. SCIENCE AND ABILITY TO UNDERSTAND DEMOCRATIC PROCESSES MADE GAINS BUT NOT QUITE SO SPECTACULAR AS THE READING AND MATHEMATICS SCORES. APPROACHES WERE MADE AND WERE STARTING TO SHOW RESULTS IN MORE COMPLEX AREAS SUCH AS POSITIVE SELF CONCEPT.

9. DETERMINE WHAT THE CLIENTS THINK

SIXTY PERCENT OF THE GRADUATES OF THE SCHOOLS FOUND THEMSELVES IN FURTHER EDUCATION. NINETY PERCENT OF THEM COULD ENTER

ONE OF THREE INSTITUTIONS OF THEIR CHOICE. ABOUT 30% WERE EMPLOYED. ABOUT 10% WERE UNEMPLOYED AND SEEKING WORK. THESE WERE SPRING OF 1977 GRADUATES QUERIED IN SPRING OF 1978. FIFTY PERCENT OF THE CLASS RESPONDED. THESE STUDENTS WANTED MORE EMPHASIS ON THE FOLLOWING:

WRITING COMPOSITION AND LANGUAGE SKILLS

MORE HELP WITH CAREER OPTIONS AND RELATIONSHIPS TO CURRICULUM

IMPROVED AND EXPANDED VOCATIONAL EDUCATION

IMPROVED MATHEMATICS SEQUENCE

IMPROVED GUIDANCE SERVICES

TOUGHER ATTITUDE ABOUT REQUIREMENTS

10. RECYCLE

A NEW FIVE YEAR PLAN IS UNDER WAY. FROM SUBSTANTIAL INVOLVEMENT A LIST OF OBJECTIVES, SOME NEW AND SOME OLD, WAS DEVELOPED AND VOTED UPON BY THOSE PARTICIPATING.

CAREER CHOICE IS NOT THERE. TO DEMONSTRATE HIGH MORAL STANDARDS AND CHARACTER IS. LEISURE TIME SKILLS HAVE BEEN REPLACED BY LEARNING HOW TO MANAGE MONEY, PROPERTY AND RESOURCES. MATHEMATICS IS THERE. READ, WRITE AND SPEAK EFFECTIVELY IS THERE. TO DEVELOP SKILLS IN AND PARTICIPATE IN DECISIONS AFFECTING STUDENTS IS THERE.

11. REPORT TO THE COMMUNITY

REPORTING IS DONE IN MYRIAD WAYS. AS AN INNOCENT BYSTANDER I HAVE HAD MORE NOON LUNCHES WITH CITIZEN GROUPS THAN I CARE TO REMEMBER AND EACH TIME THE SCHOOL STUDENTS ARE THERE.

I AM IMPRESSED AT THE CHANGE AND I CAN'T WAIT TO SEE HOW GOOD THIS SCHOOL SYSTEM BECOMES AS IT CONTINUES TO RECYCLE ITSELF.

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